

WHAT IS CLAIMED IS:

1. A method for controlling an automotive vehicle having a first clutch mounted between an engine and a gear drive transmission, for connecting or disconnecting torque transmitted from an engine to driving wheels, and torque transmission means disposed between an input shaft and an output shaft of said gear drive transmission, wherein said torque transmission means are of the dog clutch type, and wherein said first clutch is controlled at starting the vehicle or at gear shifting, said method comprising the steps of:

at starting the vehicle, controlling a transmission torque of said first clutch based on a difference between the engine speed and the revolution speed of said input shaft so as to increase a quantity of increase in a transmission torque of said first clutch if said difference is large or decrease a quantity of increase in the transmission torque of said first clutch if said difference is small; and

controlling a torque of said engine based on the transmission torque of said first clutch so as to increase the torque of said engine according to an increase in the transmission torque of said first clutch.

2. A method for controlling an automotive vehicle having a first clutch mounted between an engine and a gear drive transmission, for connecting or disconnecting torque transmitted from an engine to

driving wheels, and torque transmission means disposed between an input shaft and an output shaft of said gear drive transmission, wherein said torque transmission means are of the dog clutch type, and wherein said first clutch is controlled at starting the vehicle or at gear shifting, said method comprising the steps of:

at starting the vehicle, controlling the transmission torque of said first clutch based on a difference between the engine speed and the revolution speed of the transmission input shaft so that the transmission torque of said first clutch is held in a specified range when a difference between the engine speed and the revolution speed of said input shaft has reached a specified value.

3. A method for controlling an automotive vehicle according to Claim 1, wherein the transmission torque of said first clutch is controlled by a length of stroke to drive said first clutch.

4. A method for controlling an automotive vehicle according to Claim 1, wherein the transmission torque of said first clutch is controlled by a hydraulic pressure to drive said first clutch.

5. A control system for an automotive vehicle having a first clutch mounted between an engine and a gear drive transmission, for connecting or disconnecting torque transmitted from the engine to driving wheels, and torque transmission means disposed between an input shaft and an output shaft of the gear drive

transmission, wherein said torque transmission means are of the dog clutch type, and wherein said first clutch is controlled at starting the vehicle or at gear shifting, said control system comprising:

a clutch control means for, at starting the vehicle, controlling the first clutch transmission torque based on a difference between the engine speed and the revolution speed of the transmission input shaft so as to increase a quantity of increase in transmission torque of said first clutch when said difference is large or decrease a quantity of increase in transmission torque of said first clutch when said difference is small; and

an engine torque control means for controlling the engine torque based on the transmission torque of said first clutch so as to increase the engine torque according to an increase in the transmission torque of said first clutch.

6. A method for controlling an automotive vehicle having a first clutch mounted between an engine and a gear drive transmission, for connecting or disconnecting torque transmitted from an engine to driving wheels, and torque transmission means disposed between an input shaft and an output shaft of said gear drive transmission, wherein said torque transmission means are of the dog clutch type, and wherein said first clutch is controlled at starting the vehicle or at gear shifting, said method comprising the steps of:

at gear shifting, controlling a transmission torque of said first clutch based on a difference between the engine speed and the revolution speed of said input shaft so as to increase a quantity of increase in a transmission torque of said first clutch if said difference is large or decrease a quantity of increase in the transmission torque of said first clutch if said difference is small; and

controlling a torque of said engine based on the transmission torque of said first clutch so as to increase the torque of said engine according to an increase in the transmission torque of said first clutch.

7. A method for controlling an automotive vehicle having a first clutch mounted between an engine and a gear drive transmission, for connecting or disconnecting torque transmitted from an engine to driving wheels, and torque transmission means disposed between an input shaft and an output shaft of said gear drive transmission, wherein said torque transmission means are of the dog clutch type, and wherein said first clutch is controlled at starting the vehicle or at gear shifting, said method comprising the steps of:

controlling the transmission torque of said first clutch based on a difference between the engine speed and the revolution speed of the transmission input shaft so that the transmission torque of said first clutch is held in a specified range when a

difference between the engine speed and the revolution speed of said input shaft has reached a specified value.

8. A method for controlling an automotive vehicle according to Claim 6, wherein the transmission torque of said first clutch is controlled by a length of stroke to drive said first clutch.

9. A method for controlling an automotive vehicle according to Claim 6, wherein the transmission torque of said first clutch is controlled by a hydraulic pressure to drive said first clutch.

10. A control system for an automotive vehicle having a first clutch mounted between an engine and a gear drive transmission, for connecting or disconnecting torque transmitted from the engine to driving wheels, and torque transmission means disposed between an input shaft and an output shaft of the gear drive transmission, wherein said torque transmission means are of the dog clutch type, and wherein said first clutch is controlled at starting the vehicle or at gear shifting, said control system comprising:

a clutch control means for, at gear shifting, controlling the first clutch transmission torque based on a difference between the engine speed and the revolution speed of the transmission input shaft so as to increase a quantity of increase in transmission torque of said first clutch when said difference is large or decrease a quantity of increase in trans-

mission torque of said first clutch when said difference is small; and

an engine torque control means for controlling the engine torque based on the transmission torque of said first clutch so as to increase the engine torque according to an increase in the transmission torque of said first clutch.

11. A control system for an automotive vehicle having a first clutch mounted between an engine and a gear drive transmission, for connecting or disconnecting torque transmitted from the engine to driving wheels, and torque transmission means disposed between an input shaft and an output shaft of the gear drive transmission, wherein said torque transmission means are of the dog clutch type, and wherein said first clutch is controlled at starting the vehicle or at gear shifting, said control system comprising:

a driver's will-detecting means for detecting a request for starting and acceleration, a request for deceleration and stoppage, or a request for shifting gears;

a creep control completion decision means for deciding whether or not creep torque generation has been finished; and

a creep torque generating means for generating creep torque,

wherein when said driver's will-detecting means detects that the brake has been released, said

first clutch starts to enter a slipping-engagement state, and said slipping-engagement of said first clutch causes the driving force of the engine to be transmitted to generate so-called creep torque to let the vehicle move, and when said creep control completion detection means decides that creep control has been finished, said creep torque generating means releases the slipping engagement of the first clutch to release the generation of creep torque.

12. A control system for an automotive vehicle having a first clutch mounted between an engine and a gear drive transmission, for connecting or disconnecting torque transmitted from the engine to driving wheels, and torque transmission means disposed between an input shaft and an output shaft of the gear drive transmission, wherein said torque transmission means are of the dog clutch type, and wherein said first clutch is controlled at starting the vehicle or at gear shifting, said control system comprising:

a driver's will-detecting means for detecting a request for starting and acceleration, a request for deceleration and stoppage, or a request for shifting gears;

a creep control completion decision means for deciding whether or not creep torque generation has been finished; and

a creep torque generation means for generating creep torque,

wherein when said driver's will-detecting means detects that the brake has been released, said first clutch enters a slipping-engagement state, causing the driving force of the engine to be transmitted to generate so-called creep torque to let the vehicle move, and when said driver's will-detecting means detects a braking action, said creep generating means releases the slipping-engagement of said first clutch to release the generation of creep torque.

13. A control system according to Claim 11, wherein after the vehicle has started to run by said creep torque generating means, when said driver's will-detecting means detects a braking action, said creep torque generating means releases the slipping-engagement of said first clutch to release the generation of creep torque.

14. A control system according to Claim 11, wherein said driver's will-detecting means detects brake releasing by a brake pedal switch.

15. A control system according to Claim 11, wherein said driver's will-detecting means is adapted to detect brake releasing by a pressure of a brake cylinder.

16. A control system according to Claim 11, wherein said driver's will-detecting means detects brake releasing by a brake pedal pressure sensor.

17. A control system according to Claim 11, wherein said creep control completion decision means



for deciding whether or not creep control has been finished when the vehicle speed is equal to or higher than a specified value.

18. A control system according to Claim 11, wherein said creep control completion decision means for deciding whether or not creep control has been finished when one or more of said transmission torque, hydraulic pressure, position and an electric current of said first clutch have reached specified values.

19. A control system according to Claim 11, wherein said creep control decision means decides whether or not creep control has been finished when the duration of the slipping-engagement state of said first clutch has reached a specified length of time.